



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/576,398

11/30/2006

Jean-Pierre Germain

Serie 6331

3614

40582

7590

11/13/2008

AIR LIQUIDE

Intellectual Property

2700 POST OAK BOULEVARD, SUITE 1800

HOUSTON, TX 77056

EXAMINER

ANDERSON, DENISE R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

11/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,398	Applicant(s) GERMAIN, JEAN-PIERRE	
	Examiner Denise R. Anderson	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☒ Claim(s) 10-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. Claim 18 was cancelled and the previous rejection for indefiniteness is withdrawn.

Claim Objections

3. Claims 10-17 are objected to because of the following informality: Each previously presented claim is listed as “new.” It should be listed as “original” or “currently amended” or “previously presented.” MPEP 714 (c). Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

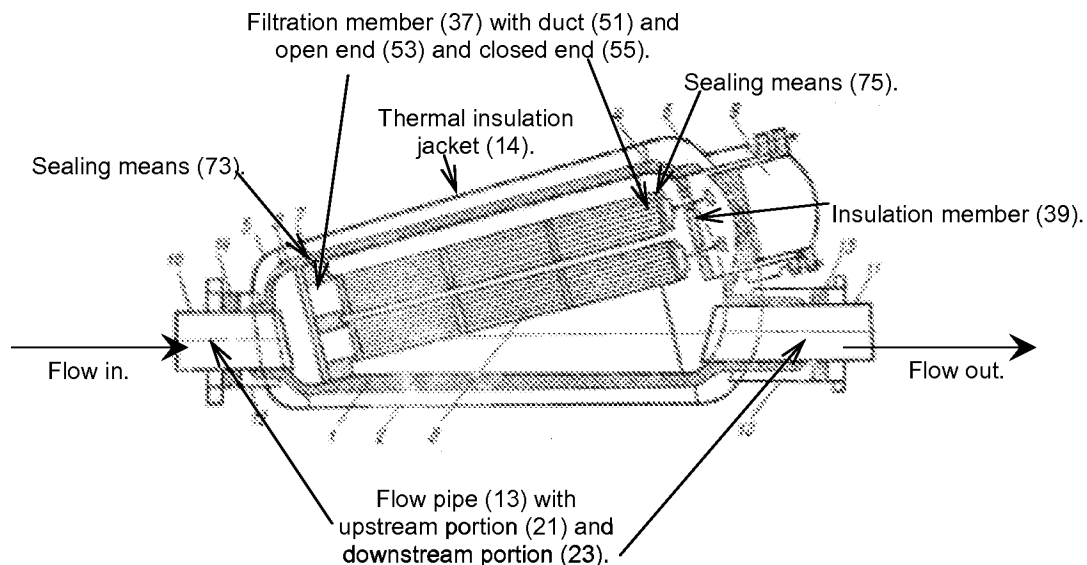
5. Claims 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lozhkin et al. (SU403926, Dec. 3, 1974 – The EPO abstract from the exp@cenet database, the Derwent abstract, the patent, and an English translation).

Art Unit: 1797

6. Regarding claim 10, Lozhkin et al. discloses “filters for cryogenic liquids.”

Lozhkin et al., Translation, page 2, lines 2-3. The Lozhkin et al. installation is shown below, with the flow pipe (13) having a filtration member (37) and an insulation jacket (14). The filtration member (37) has a duct (51) through its center with one open end (53) and one closed end (55). The filtration member has a sealing means (73) at its lower end and a sealing means (75) at its upper end.

Lozhkin et al. Figure: Filter for cryogenic liquids.



7. From the above figure, the Lozhkin et al. flow pipe has a branch extending parallel to the flow axis. The branch contains two filtration members. The insulation member is mounted to bear on the two filtration members. Sealing means (75) are located between the filtration member (37) and the insulation member (39) and the sealing means (75) is maintained in compression.

8. In summary, Lozhkin et al. anticipates claim 10.

Art Unit: 1797

9. Lozhkin et al. also anticipates claims 11-13, as shown in the above figure. The Lozhkin et al. sealing means (73) is maintained in compression by the filtration members (37) and the upstream portion 21 [claim 11]. The Lozhkin et al. upstream portion (21) is adjacent to the open end (53) leading in to the filtration members (37) [claim 12]. The angle between the branch portion and the flow axis is between about 10 and 30 degrees [claim 13].

10. In summary, Lozhkin et al. anticipates claims 11-13.

Claim Rejections - 35 USC § 103

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lozhkin et al. (SU403926, Dec. 3, 1974 – The EPO abstract from the exp@cenet database, the Derwent abstract, the patent, and an English translation).

12. Lozhkin et al. discloses the claimed invention except for the angle between the branch portion and the flow axis being “substantially equal to 15°.” It would have been obvious to one having ordinary skill in the art at the time the invention was made, in the Lozhkin et al. installation, to have made a 15° angle between the branch portion and flow axis, since it has been held that if the claimed device and the prior art device do not perform differently, then changing relative dimensions involves only routine skill in the art. *Gardner v. TEC Systems, Inc.*, 220 USPQ 777.

13. In summary, Lozhkin et al. discloses or suggests all claim 14 limitations.

Art Unit: 1797

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lozhkin et al. (SU403926, Dec. 3, 1974 – The EPO abstract from the exp@cenet database, the Derwent abstract, the patent, and an English translation), as applied to claim 10 above, and further in view of Gruber (US Patent No. 3,366,240, Jan. 30, 1968).

15. Lozhkin et al discloses the claimed invention except that the angle between the branch portion and the flow axis is less than 90° instead of the recited "vertical" or 90° angle. Applicant further recites the down stream portion (23) is opposite the porous wall (57) of the filtration member (37) toward its closed-off end (55). Gruber discloses "a line strainer or filter" and teaches the equivalence between the Lozhkin et al. structure, in Figure 1, and the recited claim 15 structure, in Figure 3. Gruber further teaches, in Figure 3, that the down stream portion (23) is opposite the middle of the filtration member (37), instead of its recited end. Gruber, Figure 3, outlet port 16 is opposite filter element 18.

16. To recap, Lozhkin et al. discloses the claimed invention except that the angle between the branch portion and the flow axis is less than 90° , whereas the claim 15 angle is 90° . Gruber shows these two in-line filter arrangements are art-recognized equivalents. Therefore, because these two in-line filter arrangements were art-recognized- equivalents at the time the invention was made, one of ordinary skill in the art would have found obvious to substitute the recited vertical in-line filter arrangement for the non-vertical in-line filter arrangement.

17. Lozhkin et al., in view of Gruber, discloses the claimed invention, except that the down stream portion (23) is opposite the middle of the filtration member (37) instead of

Art Unit: 1797

toward its end. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have moved the Lozhkin et al. down stream portion (23) away from the middle of the filtration member (37) toward its end, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

18. In summary, Lozhkin et al., in view of Gruber, disclose or suggest all claim 15 limitations.

19. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lozhkin et al. (SU403926, Dec. 3, 1974 – The EPO abstract from the exp@cenet database, the Derwent abstract, the patent, and an English translation) as applied to claim 10 above, and further in view of Giacobbe (US Patent No. 4,717,406, Jan. 5, 1988).

20. Lozhkin et al. discloses the claimed invention except for the prefiltration member (27) having a pore size greater than or equal to 100 μm [claim 16] and the filtration member (37) having a pore size less than or equal to 0.20 μm [claim 17]. Giacobbe teaches these. Giacobbe discloses, "A process and an apparatus for removing impurities from liquefied gases at cryogenic temperatures is provided which can be utilized on site at every stage of transport and storage subsequent to manufacture and prior to use. Liquefied gas to be purified which is at cryogenic temperatures is passed preferably through a prefilter to remove solid particulates." Giacobbe, Abstract, lines 1-7. Giacobbe further teaches, "[I]t is preferred that there is a filter having a pore size

Art Unit: 1797

rating of about 1 micron to 1000 microns at the inlet." Giacobbe, Column 7, lines 62-64.

Giacobbe further discloses that to remove "particles from the gas itself," a fine filter is used "and can be a 100 micron to as small as a 0.02 micron filter since it is gas that is being filtered at this point." Giacobbe, Column 9, lines 36-39.

21. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the Lozhkin et al. installation with a prefiltration member (27) having a pore size greater than or equal to 100 μm and, also, that the porous wall of filtration member (37) have a pore size less than or equal to 0.02 μm , as taught by Giacobbe, since Giacobbe states in the Abstract, lines 1-2, that such a modification would be useful in "[a] process and an apparatus for removing impurities from liquefied gases at cryogenic temperatures."

22. In summary, Lozhkin et al., in view of Giacobbe, discloses or suggests all limitations recited in claims 16-17.

Response to Arguments

23. Applicant's arguments with respect to claims 10-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise R. Anderson whose telephone number is

Art Unit: 1797

(571)270-3166. The examiner can normally be reached on Monday through Thursday, from 8:00 am to 6:00 pm.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRA

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797